

Messrs. Randall-Maciver and Wilkin think that the burial practice of the Libyans links them to the early European races and to the Amorites of Syria; but it isolates them completely from the inhabitants of Egypt of any period, whether early or late. Moreover, they assert, as the result of their craniological investigations, that connection of culture gives little or no ground for inferring identity of race between the Egyptians and Libyans; and although they admit that the prehistoric Egyptians—by which they mean the Egyptians of the first three dynasties!—were a mixed race, they declare in no uncertain voice that this mixed race as a whole was not Berber. This conclusion is based on the difference between the cephalic index of the Egyptians and that of the Berbers, and is supported by a number of carefully constructed tablets drawn up on a system which we think is new. The supporters of the theory that the Egyptians were of Libyan origin will be somewhat disturbed by such deductions, but the last word on the subject has not yet been spoken, and it must be frankly admitted that such ingenious arguments and speculations as those set forth by such industrious writers as Messrs. Randall-Maciver and Wilkin only serve in the end to show the general reader how very little is really known about such remote times as those to which they relate.

"Libyan Notes" is an interesting book, not so much for the conclusions arrived at by the authors as for the facts and references to the works of older writers, and the plates contained in it. The "notes" are brightly written, and, as we should expect from Oxford men, some attention has been paid to the style of the English used in their composition. Unfortunately, they do not advance our knowledge of the difficult subjects discussed, and it is hard not to feel that the writers have unconsciously tried to make their facts "square" with too many theories about the origins of civilisation in Southern Europe and Northern Africa. A little more attention might have been given with advantage to the Arabic words and names, especially if quantities are marked; spelling like Hâjji (p. 7), Djemâa (pp. 18, 19), Oukil (p. 20), Zaouia (p. 21), &c., disfigure the book.

#### OLD WEATHER RECORDS.

*Meteorologische Beobachtungen vom xiv. bis xvii. Jahrhundert.* Mit einer Einleitung. Herausgegeben von Prof. Dr. G. Hellmann. Pp. 127. 4to. (Berlin: A. Asher and Co.)

THIS volume is the thirteenth of the series of reprints of texts and charts concerning meteorology and terrestrial magnetism published in Berlin under the editorship of Dr. Hellmann. The editor's previous achievements in the bibliography of meteorology are so conspicuous that it will not surprise any one to find that he has selected and arranged extracts from the earliest regular meteorological records in such a way as to produce a most interesting volume. His investigations have incidentally led to considerable additions to our store of knowledge of the meteorology of Europe during the centuries referred to, for inquiry among the libraries has proved the existence of a number of useful weather registers in the margins of old calendars. These doubtless owe their origin, as Dr. Hellmann suggests, to the

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curious combination of the dearness of paper and the prevalence of the notion of referring weather changes to astronomical causes not exclusively solar, a notion not even yet quite extinct. The index of meteorological observations in the fifteenth, sixteenth and seventeenth centuries accordingly occupies as much as twenty-six pages and becomes an important work of reference for the study of secular changes of climate.

The selection of extracts is thoroughly cosmopolitan. By the exercise of a little ingenuity Dr. Hellmann manages to include with the extracts from observations made in all parts of Europe, in America and on the seas, some information about the meteorological observations of the Chaldeans lately brought to light by Mr. R. Campbell Thompson's publication of the reports of the magicians and astrologers of Nineveh and Babylon. He has something to say too about Theophrastus' book of the winds, which has been translated by Mr. J. G. Wood, and also about some early rainfall measurements in Palestine on the authority of the Mishnah.

The extracts themselves begin with a weather journal for 1343, written in Latin by William Merle, of Driby (Lincolnshire), preserved in the Bodleian Library, and end with observations made in a voyage to China, A.D. 1700, by Mr. James Cunningham, F.R.S., a ship's log originally printed in the *Philosophical Transactions*. Among the names of other observers are Martin Biem, of Krakau (1502); Aventin, of Munich (1511); Pietramellara, of Bologna (1524); Palomino, of Jodar, Spain (1556); Tycho Brahe (1582); Kepler (1623); Marggraf, Brazil (1640); Campanius, of New Sweden, N. America (1644); the Florentine observers (1655); John Locke, of Oxford (1666); and Robert Plot, of Oxford (1684), who gives the earliest extant diagram of barometric changes. Among the early marine observers are Columbus (1535); John Davis (1506); Francis Drake (1596); Henry Hudson (1608); Abel Janszoon Tasman (1642); Friedrich Martens, an arctic traveller (1671); and Edmund Halley (1699), the first 'modern' writer on the general circulation of the atmosphere, whose observations were made on a special voyage of investigation of the ocean winds in the *Paramour Pink*, a vessel placed at his disposal by King William III.

The book is full of interest not merely historical. In view of the difficulty of consulting the originals for the purposes of inquiry into such questions as the periodicity of weather changes, it seems a pity that the material is not reprinted in full instead of by extract. But such a reprint would form an entirely different kind of book.

The volume, like its predecessors in the same series, is a sort of *édition de luxe*; it is beautifully printed on hand-made paper and the facsimile reproductions are excellent.

#### OUR BOOK SHELF.

*Le Coton.* By Prof. H. Lecomte. Pp. viii + 494. (Paris: Carré and Naud, 1900.)

THIS is largely a work of compilation, and not the result of original research or experiment. In the first part, the methods of cotton culture and the chemical composition and physical structure of the fibres are dealt with. Comparisons are also made between the properties of different cottons and the uses and applications of the by-products, such as cotton-seed oil and its manufacture. The extent

to which cotton is now being grown in the United States forms several chapters of considerable interest to those concerned in the extraordinary development of the cotton industry. The other countries of America in which cotton culture is practised are next referred to, such as Mexico, Brazil and Peru. Egyptian cotton, which is largely esteemed, according to the writer, has been principally developed during the last half of the 19th century.

Allusion having been made to the historical use of cotton in eastern countries, Madagascar and Persia, the cotton-growing districts of Asia are then referred to.

Some interesting information is supplied on the baling of cotton as effected in different countries, and on the principal cotton markets of the world.

In the second part of the book the writer reviews the general history of the development of the various branches of the cotton industry, following with an analysis of the trade and its growth as known in France. Similarly, with the progress in England, Austria and Russia, and the remarkable development in Japan.

The work is purely one for the statistician, only being of indirect utility to those engaged in the manufacture of cotton fabrics, or in any way users of the cotton plant. Still, to those who wish to have a comprehensive survey of the remarkable increase in the culture of the cotton plant in countries widely differing from each other in climate and customs, the book will be found invaluable.

ROBERTS BEAUMONT.

*Taxidermy; Comprising the Skinning, Stuffing and Mounting of Birds, Mammals and Fish.* Edited by P. N. Hasluck. Pp. 160. 12mo. Illustrated. (London: Cassell and Co., Ltd., 1901.)

THE foundation of this little treatise is a series of articles by Mr. J. Fielding-Cottrill—occupying, it is said, nearly twenty thousand columns—which have appeared from time to time in *Work*, and have been brought into their present form by the editor of that journal. In his preface the editor avoids any mention of the class of workers for whom the volume is primarily intended, and it is not easy to infer this from a study of its contents. Certainly the professional taxidermist, who has at his command works of the class of Mr. J. Rowley's "Art of Taxidermy" (reviewed in *NATURE* for 1898), has nothing to learn from the present handbook, and it is difficult to imagine in what way the ordinary amateur is likely to be interested in the mounting of animals of the size of a waterbuck (p. 49).

It is not as if the author (or editor) had any new ideas to communicate with regard to the mounting of such mammals. On the contrary, although he confuses his readers with an unnecessarily complex system of measurements to be taken before skinning, he is really far behind advanced modern methods in his system, which bears no comparison with that adopted by many Continental and American taxidermists. Indeed, mediocrity may, in our opinion, be regarded as the leading feature of the book; and nowadays we require something beyond this, at least for those workers who attempt the mounting of big game.

As regards the skinning and stuffing of ordinary birds and the smaller mammals, the methods and descriptions are, in an old-fashioned way, well enough; and had the editor restricted himself to work of this nature not much fault could be found with his attempt.

One thing we are glad to notice, namely, that the author advocates painting stuffed fish in imitation of their natural colours instead of being content with the faded scarecrows still to be seen in some of our museums. Whether, however, the methods, both of mounting and colouring, advocated by him would result in the production of specimens bearing any real resemblance to their living prototypes could be decided only by actual inspection of the work.

R. L.

*A Treatise on Electromagnetic Phenomena and on the Compass and its Deviations aboard Ship. Mathematical, Theoretical and Practical.* By Commander T. A. Lyons, U.S. Navy. Vol. i. Pp. xv+556. (New York: Wiley and Sons. London: Chapman and Hall, Ltd.) Price 25s. 6d.

THIS first volume, which is to be followed by a second devoted to ships' compasses, takes a wide sweep over physical science generally. Sound waves, light waves, cathode rays, Röntgen rays and Hertzian radiation are treated in a vigorous popular style, special attention being devoted to the functions of the ether which pervades all space. No preliminary knowledge is assumed, common language is preferred to technical, and much information of quite recent date is given—a notable instance being the information regarding atmospheric electricity obtained by kite-flying. The reader never feels himself snubbed as an ignorant person who must be content with elementary knowledge, but is freely admitted to the most sacred arcana.

On the other hand, little attention is paid to precision in the use of scientific language, and both grammar and logic are sometimes loose. Moment of inertia is spoken of as potential energy, and we are told that the field of a current can be measured in dynes; also that the moment of a magnet and the strength of a pole can each be expressed in dynes. On p. 152 the extraordinary statement is made that a steel magnet of suitable strength suspended by a thread between the poles of an electro-magnet sets equatorially. As a matter of historic criticism, the discovery of "the dip" is claimed for Peter Peregrinus, simply because he observed that a suspended needle dipped when held over either end of a horizontal magnet.

About a third of the volume deals with magnetism, especially terrestrial magnetism and the instruments for measuring it—a subject with which the author appears to have much practical familiarity, being, it would appear, the founder of the Magnetic Observatory at Washington.

*The Steam-Engine Indicator.* By Cecil H. Peabody, Professor of Marine Engineering and Naval Architecture, Massachusetts Institute of Technology. Pp. 153. (New York: John Wiley and Sons. London: Chapman and Hall, Ltd., 1900.)

A USEFUL little treatise, easy to read and understand, and well illustrated. It has some defects. The error due to stretching of the cord is thought to be merely a cutting away of the two ends of the diagram, whereas the whole diagram is altered on account of the continuous change of length of the string as the pulling force alters through inertia of the paper barrel and friction. Again, friction of pencil on paper always keeps the diagram *larger* than it ought to be; the author says that it *reduces* the area. Too much space is devoted to the theory of the planimeter and other matters. The important relationship between natural period and time of revolution of engine is not touched upon.

*Progress of Invention in the Nineteenth Century.* By Edward W. Byrn, A.M. Pp. vii + 476. (New York: Munn and Co., 1900.)

THE author describes scientific discovery and invention from the point of view of a man familiar with the American patent office. Henry, and not Sturgeon, is therefore the inventor of the horse-shoe electro-magnet; Morse, and not Cooke, is the inventor of the telegraph. He has the patent office official's knowledge of science. He bursts into rhapsody only at the beginning and ending of chapters. He gives in each chapter bits of the history of an industry, not very satisfying because very incomplete. But each chapter is readable, being somewhat like an article in an illustrated magazine intended for general readers.